

Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

1. (currently amended): A method of processing a polymer layer including Si-C bonds including the steps of heating the layer to desorb moisture and harden the layer and exposing the layer to a hydrogen plasma during the heating process, wherein the polymer layer includes carbon subsequent to said heating and exposing, and wherein the layer is supported on an electrode and the plasma is at least partially maintained by an RF power source connected to the electrode.

2. (cancelled)

3. (original): A method as claimed in Claim 1 wherein the plasma is present throughout the heating stage.

4. (cancelled)

5. (original): A method as claimed in Claim 4 wherein the power source is between 400 and 750 watts.

6 – 9. (cancelled)

10. (previously presented): A method as claimed in Claim 1 wherein the heating step lasts for between 2 and 4 minutes.

11. (original): A method as claimed in Claim 10 wherein the heating step lasts

for 3 minutes.

12. (currently amended): A method as claimed in Claim 1 wherein the layer is ~~supported on a platen~~ heated to between 350°C and 550°C.

13. (currently amended): A method as claimed in Claim 1 wherein:

- (1) ~~the plasma is maintained by an RF power source connected to a platen on which the layer is supported~~ and the power source provides substantially 600 watts;
- (2) the platen is heated to between 400°C and 500°C; and
- (3) the heating step lasts for substantially 3 minutes.

14. (previously presented): A method as claimed in Claim 1 wherein the dielectric constant of the processed layer is below 3.00.

15. (previously presented): A method as claimed in Claim 1 wherein the layer is treated by the plasma to depth $>3000\text{\AA}$.

16. (previously presented): A method as claimed in Claim 1 wherein the layer is treated by the plasma to a depth of $<600\text{\AA}$.

17. (previously presented): A method as claimed in Claim 1, wherein the layer is an insulating layer on a semiconductor wafer.

18. (previously presented): A method as claimed in Claim 1, wherein the processing method reduces cracking in the layer.

19. (previously presented): A method as claimed in Claim 1, wherein the processing method improves the wet etch rate of the layer.

20. (previously presented): A method as claimed in Claim 1, wherein the polymer layer includes Si-C bonds subsequent to said heating and exposing.

21. (currently amended): A method of processing a polymer layer including Si-C bonds including the steps of heating the layer to desorb moisture and harden the layer and exposing the layer to a hydrogen plasma during the heating process, wherein the plasma is at least partially maintained by an RF driven electrode on which the layer is supported, wherein the polymer layer includes carbon subsequent to said heating and exposing, and wherein a thickness of the layer is in a range of 7,000Å to 9,000Å.

22. (new): A method of processing a polymer layer including Si-C bonds, comprising:
heating the layer to desorb moisture and harden the layer; and
exposing the layer to a hydrogen plasma during the heating process, wherein hydrogen plasma is generated in a Reactive Ion Etching (RIE) mode;
wherein the polymer layer includes carbon subsequent to said heating and exposing.

23. (new): A method as claimed in Claim 22, wherein said heating and exposing occurs for 60 to 300 seconds.

24. (new): A method as claimed in Claim 22, wherein the layer is supported by a platen, and wherein the platen temperature during said heating is 350°C to 500°.

25. (new): A method as claimed in Claim 22, wherein the dielectric constant of the processed layer is less than 3.00.

26. (new): A method as claimed in Claim 22, wherein hydrogen plasma is further generated in an Inductively Coupled Plasma (ICP) mode concurrently with the

RIE mode, wherein the layer is supported by a platen, and wherein the platen temperature during said heating is 400°C to 500°.